

# English Courses

College of Civil Engineering in Tongji University

## Introduction to College of Civil Engineering in Tongji University



College of Civil Engineering (CCE) in Tongji University has the best civil engineering program in China. It consists of four departments and one institute, i.e., Department of Building Engineering, Department of Geotechnical Engineering, Department of Bridge Engineering, Research Institute of Structural Engineering and Disaster Reduction, and Department of Hydraulic Engineering. There is a State Key Laboratory of Disaster Reduction in Civil Engineering and Key Laboratory of Geotechnical and Underground Engineering in Ministry of Education. The college has 387 faculties and staffs including 1 member of the Chinese Academy of Science and 4 members of the Chinese Academy of Engineering. There are 111 full professors and 96 associate professors.

CCE always pays attention to international exchanges and cooperation. Until now, CCE has cooperated with 33 well-known universities abroad on the student exchange programs for both undergraduate and postgraduate students, e.g., course study, joint research, joint design, and summer school. For double degree programs, CCE has cooperated with about 20 well-known universities abroad (e.g., ENPC, EC Nantes, UPC) for both undergraduate and postgraduate students. Now, CCE has 16 English courses for undergraduate students and 12 English courses for graduate students.

CCE embraces a multitude of international exchange programs with overseas universities. Overseas students are always very welcome to CCE at TJU for the summer school study, short-term internship, course study, research and Bachelor/ Master/Doctoral degrees study.

## English Courses for Undergraduate Students

### Structural Mechanics I

**Course Code: 030130    Credit: 4**

As a fundamental course, Structural mechanics is an important basis for specialized knowledge of civil engineering. Following the courses of Theoretical mechanics and Mechanics of materials, the general task of this course is to demonstrate the basic concepts, principles and methods of structural analysis, structural behaviour of bar systems and skills for the analysis of structures.

The main objectives of the course include:

- (1) to understand the construction rules of bar systems;
- (2) to master the basic concepts, principles and methods for the analysis of both statically determinate and indeterminate structures, as well as the calculation of structural displacements;
- (3) to learn the methods of structural matrix analysis.

**Course teacher: SUN Feifei, SONG Xiaobin**

SUN Feifei, Associate Professor, Ph.D.Supervisor, Ph.D.Degree Awarded by Tongji University

**Research Area:** Earthquake Resistance and Passive Control of High-rise Building Structures, High Performance Steel Structures

**Telephone:** 021-65982975-11

**Fax:** 021-65983431

**Email:** ffsun@tongji.edu.cn

**Personal Home Page:** [http://www.steelpro.net/content.aspx?info\\_lb=47&flag=2](http://www.steelpro.net/content.aspx?info_lb=47&flag=2)

SONG Xiaobin, Associate Professor, Master Supervisor, Ph.D.Degree Awarded by University of British Columbia, Canada

**Research Area:** Seismic analysis and strengthening of modern and traditional timber structures

**Telephone:** 021-65982928, 15900698312

**Fax:** 021-65982928

**Email:** xiaobins@tongji.edu.cn

**Personal Home Page:** <http://asns.tongji.edu.cn/index.php?classid=2316&id=10&t=show&p=>



## Structural Mechanics II

**Course Code: 030235    Credit: 2**

As a fundamental course, Structural mechanics is an important basis for specialized knowledge of civil engineering. Following the courses of Theoretical mechanics and Mechanics of materials, the general task of this course is to demonstrate the basic concepts, principles and methods of structural analysis, structural behaviour of bar systems and skills for the analysis of structures.

The main objectives of the course include:

- (1) to understand the construction rules of bar systems;
- (2) to master the basic concepts, principles and methods for the analysis of both statically determinate and indeterminate structures, as well as the calculation of structural displacements;
- (3) to learn the methods of structural matrix analysis.

**Course teacher: SUN Feifei, SONG Xiaobin**

SUN Feifei, Associate Professor, Ph.D.Supervisor, Ph.D.Degree Awarded by Tongji University

**Research Area:** Earthquake Resistance and Passive Control of High-rise Building Structures, High Performance Steel Structures

**Telephone:** 021-65982975-11

**Fax:** 021-65983431

**Email:** ffsun@tongji.edu.cn

**Personal Home Page:** [http://www.steelpro.net/content.aspx?info\\_lb=47&flag=2](http://www.steelpro.net/content.aspx?info_lb=47&flag=2)

SONG Xiaobin, Associate Professor, Master Supervisor, Ph.D.Degree Awarded by University of British Columbia, Canada

**Research Area:** Seismic analysis and strengthening of modern and traditional timber structures

**Telephone:** 021-65982928, 15900698312

**Fax:** 021-65982928

**Email:** xiaobins@tongji.edu.cn

**Personal Home Page:** <http://asns.tongji.edu.cn/index.php?classid=2316&id=10&t=show&p=>



## Basic Principles of Concrete Structure

**Course Code: 030158    Credit: 4**

Fundamentals of Concrete Structures is a key course for undergraduates major in civil engineering. The objective of this course is to help students to completely understand the basic mechanical properties and design methods of structural members made of concrete and reinforcement, and to lay foundation for future study of the design and construction of various types of reinforced concrete structures.

**Course teacher: SU Xiaozu, ZHOU Yong**

SU Xiaozu, Professor, Ph.D. Supervisor, Ph.D. Degree Awarded by Tongji University

**Research Area:** Concrete Structures

**Telephone:** 021-65986003, 18901938359

**Fax:** 021-65986345

**Email:** xiaozusu@tongji.edu.cn

**Personal Home Page:** <http://xiaozusu.51.net>

ZHOU Yong, Lecturer, Ph.D. Degree Awarded by Northwestern University

**Research Area:** Concrete Structures

**Telephone:** 021-65980321, 13482565984

**Fax:** 021-65986345

**Email:** yongzhou@tongji.edu.cn



## Design of Concrete Structure

**Course Code: 031128    Credit: 2.5**

Design of Concrete Structures is a key course for undergraduates major in civil engineering. The objective of this course is to help students to completely understand the basic types of concrete structures and to master the corresponding design principles and design methods.

**Course teacher: SU Xiaozu, ZHOU Yong**

## Basic Principle of Steel Structure

**Course Code: 031126 Credit: 2.5**

Basic principles of steel structures is a compulsory and core course for Civil Engineering major students. The goal of this course is for students to develop a solid understanding of the theory, analysis, and design of steel structures. Students will master the mechanical properties of structural steel and the structural behavior of basic structural steel members and connections.

**Course teacher: ZHOU Feng**

ZHOU Feng, Associate Professor, Ph.D Degree awarded by The University of Hong Kong

**Research Area:** Cold-formed steel structures; Stainless steel structures; Aluminum structures; Structural stability; FRP strengthening on steel structures; Composite structures

**Telephone:** 021-65982926

**Fax:** 021-65984976

**Email:** zhoufeng@tongji.edu.cn

**Personal Home Page:** <http://www.sals.org.cn/memberdetail/zhousir.htm>



## Soil Mechanics

**Course Code: 031175 Credit: 2**

Soil Mechanics is a required course for students majoring Civil Engineering. This course is intended to explain in adequate depth the mechanical behaviors and engineering properties of geo-materials. The objective of this course is to equip students with fundamental principles of soil mechanics, and to develop their essential prerequisite skills for future practical experience in geotechnical engineering.

**Course teacher: LIU Fang**

LIU Fang, Lecturer, Ph.D. (University of Southern California, USA)

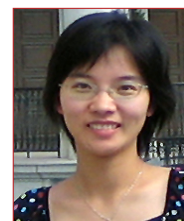
**Research Area:** Geotechnical Engineering

**Telephone:** 021-65983142, 15802130095

**Fax:** 021-65985210

**Email:** liufang@tongji.edu.cn

**Personal Home Page:** <http://geotec.tongji.edu.cn/selfpage/liuf/liu-fang.htm>



## Earthquake Resistance of Building Structures

**Course Code: 031310 Credit: 1.5**

The course "Seismic Design of Building Structures" is a compulsory professional course for students of civil engineering. The students will be trained through the course to master the basic knowledge on seismic design of building structures, so that they will possess the ability to solve the basic problems to seismic design of building structures.

**Course teacher: LU Xilin, XIONG Haibei, ZHOU Ying**

LU Xilin, Professor, Ph.D. Supervisor, Cheung Kong Scholar, Ph.D. Degree Awarded by Tongji University

**Research Area:** Earthquake Resistance and Disaster Reduction of RC Structures, Vibration Control of High-rise Building Structures

**Telephone:** 021-65983430

**Fax:** 021-65982668

**Email:** lxlst@tongji.edu.cn

**Personal Home Page:** [http://risedr.tongji.edu.cn/ShowPeople.aspx?info\\_lb=50&flag=3&info\\_id=132](http://risedr.tongji.edu.cn/ShowPeople.aspx?info_lb=50&flag=3&info_id=132)



XIONG Haibei, Professor, Ph.D Supervisor, Ph.D. Degree Awarded by Tongji University

**Research Area:** Timber Engineering, Earthquake Resistance and Disaster Reduction of Building Structures

**Telephone:** 021-65987360

**Fax:** 021-65982668

**Email:** xionghaibei@tongji.edu.cn

**Personal Home Page:** <http://risedr.tongji.edu.cn/showjl.asp?id=53>



ZHOU Ying, Professor, Ph.D. Supervisor, Ph.D. Degree Awarded by Tongji University

**Research Area:** Seismic Performance of Complex Tall Buildings, Structural Control of High-rise Building Structures, Earthquake Ground Motion Input

**Telephone:** 021-65986157

**Fax:** 021-65982668

**Email:** yingzhou@tongji.edu.cn

**Personal Home Page:** [http://risedr.tongji.edu.cn/ShowPeople.aspx?info\\_lb=51&flag=3&info\\_id=233](http://risedr.tongji.edu.cn/ShowPeople.aspx?info_lb=51&flag=3&info_id=233)



## Underground Structure

**Course Code: 031190    Credit: 3**

To convey the fundamentals of Underground structures to the students and help the students form the basic concept of underground structure for solving engineering problems. To help students learn English terminology in underground engineering and improve their listening and spoken English in Civil Engineering professional communications. To help students have the ability of designing on underground structures.

**Course teacher: ZHANG Zixin**

ZHANG Zixin, Professor, Ph.D. Supervisor, Ph.D. Degree Awarded by China Mining and Technology University

**Research Area:** Shield Tunneling in Urban Areas, Discontinuous Rock Mass

**Telephone:** 021-65982986

**Fax:** 021-65985210

**Email:** zxzhang@tongji.edu.cn

**Personal Home Page:** <http://www.sinotunnel.org/>



## Timber Structure

**Course Code: 031145    Credit: 1**

The major objective of this course is to help the students to understand the commonly used structural configurations and the currently used design codes of timber structures. The students will also learn via the study of this course the fundamental methods for designing of timber components (including connections) and structural systems.

**Course teacher: HE Minjuan, XIONG Haibei, Luo Lie, Song Xiaobin, Frank LAM**

HE Minjuan, Professor, Ph.D. Supervisor, Ph.D. Degree Awarded by Tongji University

**Research Area:** Steel Structures Timber Structures

**Telephone:** 021-65981582

**Fax:** 021-65986345

**Email:** hemj@tongji.edu.cn



XIONG Haibei, Professor, Ph.D Supervisor, Ph.D. Degree Awarded by Tongji University

**Research Area:** Timber Engineering, Earthquake Resistance and Disaster Reduction of Building Structures

**Telephone:** 021-65987360

**Fax:** 021-65982668

**Email:** xionghaibei@tongji.edu.cn

**Personal Home Page:** <http://risedr.tongji.edu.cn/showjl.asp?id=53>



LUO Lie, Associate Professor, Ph.D. Degree Awarded by Tongji University

**Research Area:** Steel Structures and Timber Structures

**Telephone:** 021-65983603

**Email:** luolie@tongji.edu.cn



SONG Xiaobin, Associate Professor, Master Supervisor, Ph.D. Degree Awarded by University of British Columbia, Canada

**Research Area:** Seismic analysis and strengthening of modern and traditional timber structures

**Telephone:** 021-65982928, 15900698312

**Fax:** 021-65982928

**Email:** xiaobins@tongji.edu.cn

**Personal Home Page:** <http://asns.tongji.edu.cn/index.php?classid=2316&id=10&t=show&p=>



Frank LAM, Guest Professor of Tongji University, Professor in UBC, Ph.D. Degree Awarded by UBC, Canada

**Research Area:** Timber Engineering

**Email:** frank.lam@ubc.ca



## Underground Engineering

**Course Code: 031355    Credit: 2**

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. To achieve the goal of sustainable development, human being must use more underground space so as to cope with rapid urbanization and effects of climate change, to gain cities resilience against natural disaster and preserve environment, etc. This course is to help students to be aware of the use of underground space and gain the knowledge of planning, design, construction and operation of underground space.

**Course teacher: BAI Yun**

BAI Yun, Professor, Ph.D. Supervisor, Ph.D. Degree Awarded by Tongji University

**Research Area:** Underground Engineering

**Telephone:** 021-65980401

**Fax:** 021-33531750

**Email:** baiyun1958@gmail.com

**Personal Home Page:** <http://geotec.tongji.edu.cn/selfpage/baiy/2010-9.htm>



## Theory of Elasticity

**Course Code: 030192    Credit: 2**

The course of Elasticity is a compulsory specialty course for year three undergraduates in civil engineering. The objectives of this course is to convey the fundamentals of Elasticity as part of Continuum Mechanics to the students and help the students form the basic concept of applying elasticity for solving engineering problems. To help students learn English terminology in Elasticity and improve their listening and spoken English in Civil Engineering professional communications.

**Course teacher: ZHUANG Xiaoying**

ZHUANG Xiaoying, Lecturer, Ph.D. Supervisor, Ph.D. Degree Awarded by Durham University, UK

**Research Area:** Computational mechanics, 3D fracture modeling, rock mechanics, CAES

**Telephone:** 021-65983982

**Fax:** 021-65985140

**Email:** xiaoying.zhuang@gmail.com, xiaoyingzhuang@tongji.edu.cn

**Personal Home Page:** <http://geotec.tongji.edu.cn/selfpage/zhuangxy/zhuang-xiaoying.htm>



## Composite Structure

**Course Code: 031142    Credit: 1**

The fundamental objectives of the course are training the students to gain knowledge of steel and concrete composite structures, to master the design principle and construction application of composite structure, and to know key research/application topics in composite structures. It is emphasized at explaining the composite action of the two different materials, describing fundamentals which have to be taken into account in the design of composite structures, and teaching the design principles and the basic design methods of steel and concrete composite members such as composite beams, composite slab and composite columns particularly used in building construction.

**Course teacher: CHEN Shiming**

CHEN Shiming, Professor, Ph.D. Supervisor, Ph.D. Degree Awarded by University of Warwick(UK)

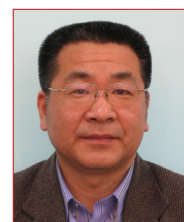
**Research Area:** Earthquake Resistance and Disaster Reduction of RC Structures, composite structures

**Telephone:** 021-65986183

**Fax:** 021-65982668

**Email:** chensm@tongji.edu.cn

**Personal Home Page:** <http://risedr.tongji.edu.cn/webs/ChenSM>



## Retaining Structure and Foundation Pit Engineering

**Course Code: 031250    Credit: 1**

Retaining Structures and Deep Excavations is an optional professional course for the senior students of Geotechnical and Underground Engineering. Construction of foundation pits of buildings, bridges, dams, embankments or metro lines calls for deep excavations. It is very important for students of civil engineering to know some basic information about deep excavations and know how to design and construct a simple excavation before their graduation.

**Course teacher: TAN Yong**

TAN Yong Associate Professor, Master Supervisor, Ph.D. Degree Awarded by University of Massachusetts (USA)

**Research Area:** Geotechnical and Underground Engineering

**Telephone:** 021-65982456

**Fax:** 021-65981011

**Email:** tanyong21th@tongji.edu.cn

**Personal Home Page:** <http://geotec.tongji.edu.cn/selfpage/tany/tany.htm>



## Introduction to Bridge Dynamics

**Course Code: 030311 Credit: 2**

This course is a specialized selective course for the UG students on Civil and Structure Engineering. The purpose of this course is to enable students to master the basic knowledge on bridge vibration modeling and analysis under vehicle, earthquake and wind excitations.

**Course teacher: SUN Zhi, GE Yaojun**

SUN Zhi, Professor, Ph.D. Degree Awarded by Hong Kong University of Science and Technology

**Research Area:** Bridge Monitoring and Control

**Telephone:** 021-65983116-2715

**Email:** sunzhi1@tongji.edu.cn



GE Yaojun, Professor, Ph.D. Degree Awarded by Tongji University

**Research Area:** Wind Engineering

**Telephone:** 021-65983116-2307

**Email:** yaojunge@tongji.edu.cn



## Underground Structure Disaster and Protection

**Course Code: 031347 Credit: 1**

Underground structure disaster and protection is an optional course for Civil Engineering students. It starts with the general principles for risk assessment. It focuses on the state-of-the-art theories and methods for assessing hazards in geotechnical and underground engineering in a scientific and systematic way, typically those associated with deep excavation, tunnel construction, soil liquefaction, and slope failure. How to mitigate such hazards will also be covered. Through this course, students are expected to be able to understand the characteristics and mechanism of geohazards as well as the techniques for assessing and mitigating geohazards.

**Course teacher: ZHANG Jie**

Zhang, Jie; Lecturer, Master Supervisor, Ph.D. (The Hong Kong University of Science and Technology)

**Research Area:** Risk Assessment and Hazard Mitigation in Geotechnical and Underground

**Telephone:** 021-65985017

**Fax:** 021-65985017

**Email:** cezhangjie@tongji.edu.cn

**Personal Home Page:** <http://geotec.tongji.edu.cn/selfpage/zhangj/zhangjie.htm>



## Tunnel Engineering

**Course Code: 030044-1 Credit: 1**

Gain the basic knowledge of the investigation and design of tunnels. Calculate tunnel ventilation and lighting. Understand tunnel maintenance, evacuation and rescues, risk management and life-cycle design concept.

The main contents of this course include:

- Design of tunnel transverse section, cost-effective method, planning and contract, tunnel history
- Engineering geological investigation, tunnel alignment, tunnel geometry design, life-cycle design
- Tunnel installation, portal design, affiliated equipment, water-proof and drainage.
- The tunnel allowable concentration, calculation of ventilation capacity, choosing ventilation methods, choosing ventilating machines.
- The components of illumination curve, calculation and design of tunnel illumination, the concept of light-reducing, utilization of new energy
- Operational tunnel maintenance methods, risk management, different evacuation and rescues.

**Course teacher: HUANG Hongwei, LI Xiaojun**

HUANG Hongwei, Professor, Ph.D. Supervisor, Ph.D. Degree Awarded by Tongji University

**Research Area:** Risk Assessment and Disaster Analysis, Long-term Behavior and Maintenance in Tunnel and Underground Works

**Telephone:** 021-65989273

**Fax:** 021-65985017

**Email:** huanghw@tongji.edu.cn

**Personal Home Page:** <http://geotec.tongji.edu.cn/selfpage/huanghw/huang-hongwei.htm>



LI Xiaojun, Associate Professor, Master Supervisor, Ph.D. Degree Awarded by Tongji University

**Research Area:** Performance and long-term behavior of tunnel structures, digital underground space and engineering

**Telephone:** 021-65983982

**Fax:** 021-65985140

**Email:** lixiaojun@tongji.edu.cn

**Personal Home Page:** <http://geotec.tongji.edu.cn/selfpage/lixj/li-xiaojun.htm>



## English Courses for Graduate Students

### Advanced Theory of Concrete Structures

**Course Code: 2020461 Credit: 3**

- 1) Understand the mechanical behavior of concrete and steel materials.
- 2) Understand the mechanical behavior of reinforced concrete structural members.
- 3) Understand the mechanical behavior of pre-stressed concrete structural members.
- 4) Realize the basic research principles and methods for concrete structures.
- 5) Organize the group meeting or discussion.

**Course teacher: GU Xianglin, LIN Feng, ZHOU Yong**

GU Xianglin, Professor, Ph.D. Supervisor, Ph.D. Degree Awarded by Tongji University

**Research Area:** Concrete Structures

**Telephone:** 021-65982928

**Fax:** 021-65986345

**Email:** gxl@tongji.edu.cn

**Personal Home Page:** <http://asns.tongji.edu.cn/gugan/guxianglin.htm>



LIN Feng, Associate Professor, Ph.D. Degree Awarded by Ruhr University Bochum

**Research Area:** Concrete Structures

**Telephone:** 021-65982928

**Fax:** 021-65982928

**Email:** lin\_feng@tongji.edu.cn

**Personal Home Page:** <http://asns.tongji.edu.cn/index.php?classid=2316&id=5&t=show&p=>



ZHOU Yong, Lecturer, Ph.D. Degree Awarded by Northwestern University

**Research Area:** Concrete Structures

**Telephone:** 021-6598032113482565984

**Fax:** 021-65986345

**Email:** yongzhou@tongji.edu.cn



### Earthquake Engineering

**Course Code: 2020327 Credit: 2**

The course is prepared for postgraduate students in structural engineering. The fundamental objectives of the course are training the students to gain knowledge of the basic concepts of earthquake engineering, to master the analysis method of linear/nonlinear structural response subject to earthquake, to know measurement and identification of structural dynamics characteristics, to understand the analysis principle of stochastic seismic response of structure and the advanced disaster prevention technologies. Besides lectures, the students are encouraged to prepare seminar notes and have seminar discussions.

**Course teacher: CHEN Suwen, CHEN Jianbing**

Chen Suwen, Associate Professor, MSc Supervisor, Ph.D. Degree Awarded by Tongji University

**Research Area:** Steel Structures/Disaster prevention

**Telephone:** 021-65982975 ext.16

**Fax:** 021-65983431

**Email:** swchen@tongji.edu.cn

**Personal Home Page:** [http://www.steelpro.net/content.aspx?info\\_lb=45&flag=2](http://www.steelpro.net/content.aspx?info_lb=45&flag=2)



CHEN Jianbing, Professor, Ph.D. Supervisor, Ph.D. Degree Awarded by Tongji University

**Research Area:** Stochastic Dynamics, structural reliability and earthquake engineering

**Telephone:** 021-65981505

**Fax:** 021-65983526

**Email:** chenjb@tongji.edu.cn

**Personal Home Page:** <http://www.dpctej.org/quntichengyuan/chenjb.htm>



## Steel and Concrete Composite Structures

**Course Code: 2020387    Credit: 2**

The course is prepared for postgraduate students in civil engineering. The fundamental objectives of the course are training the students to gain knowledge of steel and concrete composite structures, to master the design principle and construction application of composite structure, and to know key research/application topics in composite structures. It is emphasized at explaining the composite action of the two different materials, describing fundamentals which have to be taken into account in the design of composite structures, and teaching the design principles and the design methods of steel and concrete composite members such as composite beams, composite slab and composite columns particularly used in building construction. The main contents of the course are: general introduction; design principles and fundamentals of composite action; composite slab; composite beams simply supported; shear connection; continuous composite beams; composite columns; frame beam to column joints. Besides lecturing hour, each student is encouraged to focus on the recent development and application of the composite construction technology, to prepare seminar notes and have seminar discussions.

**Course teacher: CHEN Shiming**

CHEN Shiming, Professor, Ph.D. Supervisor, Ph.D. Degree Awarded by University of Warwick(UK)

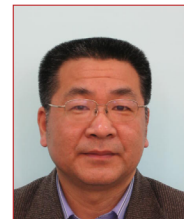
**Research Area:** Earthquake Resistance and Disaster Reduction of RC Structures, composite structures

**Telephone:** 021-65986183

**Fax:** 021-65982668

**Email:** chensm@tongji.edu.cn

**Personal Home Page:** <http://risedr.tongji.edu.cn/webs/ChenSM>



## Dynamics of Structures

**Course Code: 2020061    Credit: 3**

This course serves as the basic course for dynamic related research (including wind engineering, earthquake engineering, structural health monitoring, structural control, and etc), and explores in greater depth the fundamental mathematics invoked to richly describe dynamic system behavior.

The course covers topics such as the dynamic response of structures modeled as single-degree-of-freedom systems and multi-degree-of-freedom systems, response of the linear systems to harmonic, periodic and arbitrary excitations, earthquake response of linear systems, and free and forced vibrations.

This course introduces the fundamental theories related to structural dynamics, and covers topics such as the equations of motion, problem statement, and solution methods, free vibration, response to harmonic and periodic excitations, response to arbitrary, step, and pulse excitation, numerical evaluation of dynamic response, earthquake response of linear systems and inelastic systems, single-degree-of-freedom and multi-degree-of-freedom systems.

**Course teacher: CHEN Jun, HUANG Hongwei**

CHEN Jun, Professor, Ph.D. Supervisor, Ph.D. Degree Awarded by Tongji University

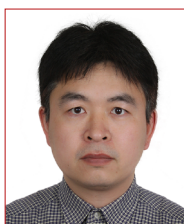
**Research Area:** Concrete Structures

**Telephone:** 021-65981505

**Fax:** 021-65986345

**Email:** cejchen@tongji.edu.cn

**Personal Home Page:** <http://www.dpcetj.org/quntichengyuan.htm>



HUANG Hongwei Associate Professor, M.Eng. Supervisor, Ph.D. Degree Awarded by University of California, Irvine

**Research Area:** Structural Health Monitoring and Vibration Control

**Telephone:** 021-65983116-2715

**Email:** hongwei@tongji.edu.cn



## Advanced Theory of Steel Structures

**Course Code: 2020388    Credit: 2**

This course is to help the students to gain an in-depth understanding of steel structures and to know well the advances in the related research fields. The course covers a broader understanding of the behavior of steel structures as systems, in opposition to individual elements only, is to be achieved through this course.

**Course teacher: WANG Wei, ZHOU Feng**

WANG Wei, Associate Professor, Ph.D. Supervisor, Ph.D. Degree Awarded by Tongji University

**Research Area:** Steel Structures

**Telephone:** 021-65982926

**Fax:** 021-65984976

**Email:** weiwang@tongji.edu.cn

**Personal Home Page:** <http://www.sals.org.cn/memberdetail/wangsir.htm>



ZHOU Feng, Associate Professor, Ph.D. Degree awarded by The University of Hong Kong

**Research Area:** Cold-formed steel structures; Stainless steel structures; Aluminum structures; Structural stability; FRP strengthening on steel structures; Composite structures

**Telephone:** 021-65982926

**Fax:** 021-65984976

**Email:** zhoufeng@tongji.edu.cn

**Personal Home Page:** <http://www.sals.org.cn/memberdetail/zhousir.htm>



## Structural Wind Engineering

**Course Code: 2020207    Credit: 2**

- 1) Understand the nature of wind, prediction of design wind speeds, nature of the atmospheric boundary layer, and basic bluff-body aerodynamics;
- 2) Realize wind effect on structures, including dynamic response under wind load, effective static wind action, and effect of internal pressures;
- 3) Evaluate the wind load and wind-induced responses on typical structures;
- 4) Know basic points of main wind-resistant design codes in the world;

**Course teacher: LI Yuanqi**

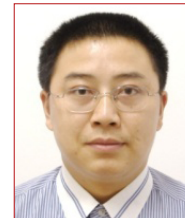
LI Yuanqi, Professor, Ph.D. Supervisor, Ph.D. Degree Awarded by Tongji University

**Research Area:** Steel Structures

**Telephone:** 021-65980586

**Fax:** 021-65986345

**Email:** liyq@tongji.edu.cn



## Elasticity and Plasticity

**Course Code: 2020455    Credit: 3**

“Elasticity and Plasticity” introduces the basic concepts and notations of vector and tensor analysis. A novel approach to the analysis of stress and strain is presented, which not only elucidate these principles but provide a clear physical understanding as well. The general assumptions used in the formulation of elasticity-based constitutive models are explained. It is extended to the elasticity-based stress-strain models to the plastic range. Plasticity-based models for engineering applications are developed.

**Course teacher: WU Yuqing**

WU Yuching Associate Professor, Ph.D. of Colorado State University USA

**Research Area:** Computational Solid Mechanics

**Telephone:** 021-65982927

**Email:** ycwu@tongji.edu.cn



## Finite Element Method

**Course Code: 2020452    Credit: 2**

“Finite Element Method” is an introductory course in the finite element method, a method for solving boundary value problems associated for both ordinary differential equations and partial differential equations. Prerequisites for the course include familiarity with partial differential equations, and knowledge of MATLAB.

The objectives of the course are to introduce the student to the mathematical foundations of the finite element method and to the practical aspects of finite element programming.

**Course teacher: WU Yuqing**

## Probability analysis in civil engineering

**Course Code: 2020472    Credit: 2**

Probability analysis in civil engineering is a basic course for Civil Engineering major students. It is made up of basic theories and methods for risk assessment in civil engineering. Students will master the theories of risk identification, risk analysis, risk assessment, and risk control in a systematical way. Furthermore, they can well understand the methodologies and current techniques for risk management in civil engineering planning, design, construction and operation.

**Course teacher: HUANG Hongwei, ZHANG Jie**

HUANG Hongwei, Professor, Ph.D. Supervisor, Ph.D. Degree Awarded by Tongji University

**Research Area:** Risk Assessment and Disaster Analysis, Long-term Behavior and Maintenance in Tunnel and Underground Works

**Telephone:** 021-65989273

**Fax:** 021-65985017

**Email:** huanghw@tongji.edu.cn

**Personal Home Page:** <http://geotec.tongji.edu.cn/selfpage/huanghw/huang-hongwei.htm>

Zhang, Jie; Lecturer, Master Supervisor, Ph.D. (The Hong Kong University of Science and Technology)

**Research Area:** Risk Assessment and Hazard Mitigation in Geotechnical and Underground

**Telephone:** 021-65985017

**Fax:** 021-65985017

**Email:** cezhangjie@tongji.edu.cn

**Personal Home Page:** <http://geotec.tongji.edu.cn/selfpage/zhangjie/zhangjie.htm>



## Advanced Experimental Techniques in Structural Engineering

**Course Code: 2020376 Credit: 2**

- 1 To observe various laboratory tests;
- 2) To expose to a variety of established testing techniques;
- 3) To master basic theories of model design for lab testing;
- 4) To learn data processing methods and instrumentations;
- 5) To get hand-on experiences of testing design, implementation, and result presentations;
- 6) To be educated to write technical reports.

**Course teacher: LU Wensheng, DAI Kaoshan, YU Jiangtao**

LU Wensheng, Professor, Ph.D Supervisor, Ph.D. Degree Awarded by Tongji University

**Research Area:** Earthquake Resistance and Disaster Reduction of Civil Engineering

**Telephone:** 021-65983428-108

**Fax:** 021-65986929

**Email:** wally@tongji.edu.cn

**Personal Home Page:** <http://risedr.tongji.edu.cn/showjl.asp?id=37>



DAI Kaoshan, Associate Professor, Ph.D Supervisor, Ph.D. Awarded by University of North Carolina, Charlotte, USA

**Research Area:** Structural dynamics and vibration control, Sensing techniques, and Energy infrastructure resilience

**Telephone:** 021-6595374

**Fax:** 021-65982668

**Email:** kdai@tongji.edu.cn

**Personal Home Page:** [http://risedr.tongji.edu.cn/en/ShowPeople.aspx?info\\_lb=63&flag=2&info\\_id=39](http://risedr.tongji.edu.cn/en/ShowPeople.aspx?info_lb=63&flag=2&info_id=39)



YU Jiangtao, Associate Professor, Master Supervisor, Ph.D. Degree Awarded by Tongji University

**Research Area:** Fire resistance of structure

**Telephone:** 021-65981431

**Fax:** 021-65982668

**Email:** yujiangtao@tongji.edu.cn

**Personal Home Page:** [http://risedr.tongji.edu.cn/ShowPeople.aspx?info\\_lb=52&flag=3&info\\_id=245](http://risedr.tongji.edu.cn/ShowPeople.aspx?info_lb=52&flag=3&info_id=245)



## Geo-environmental Engineering

**Course Code: 2020369 Credit: 2**

Geoenvironmental Engineering is a basic course for geotechnical engineering graduate students. Students will master the environmental laws and regulations, subsurface and soil contamination, the design, construction and monitoring of landfills after the lectures of geoenvironmental engineering. Furthermore, they can well understand the developing trend of geoenvironmental engineering.

**Course teacher: FENG Shijin**

FENG Shijin Professor, Ph.D Supervisor, Ph.D. Degree Awarded by Zhejiang University

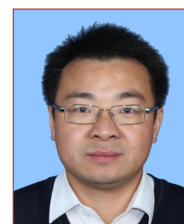
**Research Area:** Geoenvironmental Engineering; Soil Dynamics; Geotechnical Earthquake Engineering

**Telephone:** 021-65988575

**Fax:** 021-65985210

**Email:** fsgly@tongji.edu.cn

**Personal Home Page:** <http://geotec.tongji.edu.cn/selfpage/fengshj/feng-shijin.htm>



## Tall Building Structures

**Course Code: 2020378 Credit: 2**

The course "Seismic Design of Building Structures" is a compulsory professional course for students of civil engineering. The students will be trained through the course to master the basic design methods of tall building structures.

**Course teacher: XIONG Haibei**

XIONG Haibei, Professor, Ph.D Supervisor, Ph.D. Degree Awarded by Tongji University

**Research Area:** Timber Engineering, Earthquake Resistance and Disaster Reduction of Building Structures

**Telephone:** 021-65987360

**Fax:** 021-65982668

**Email:** xionghaibei@tongji.edu.cn

**Personal Home Page:** <http://risedr.tongji.edu.cn/showjl.asp?id=53>





# Contacts

## For undergraduate students

No	Course Code	Course Name	Credit	Course Teacher	Email
1	030130	Structural Mechanics I	4	SUN Feifei, SONG Xiaobing	ffsun@tongji.edu.cn, xiaobins@tongji.edu.cn
2	030235	Structural Mechanics II	2	SUN Feifei, SONG Xiaobing	ffsun@tongji.edu.cn, xiaobins@tongji.edu.cn
3	030158	Basic Principles of Concrete Structure	4	SU Xiaozu, ZHOU Yong	xiaozusu@tongji.edu.cn, yongzhou@tongji.edu.cn
4	031128	Design of Concrete Structure	2.5	SU Xiaozu, ZHOU Yong	xiaozusu@mail.tongji.edu.cn, yongzhou@tongji.edu.cn
5	031126	Basic Principle of Steel Structure	2.5	ZHOU Feng	zhoufeng@tongji.edu.cn
6	031175	Soil Mechanics	2	LIU Fang	liufang@tongji.edu.cn
7	031310	Earthquake Resistance of Building Structure	1.5	LU Xilin, XIONG Haibei, ZHOU Yin	yingzhou@tongji.edu.cn
8	031190	Underground Structure Engineering	3	ZHANG Zixin	zxzhang@tongji.edu.cn
9	031145	Timber Structure	1	HE Mingjuan, XIONG Haibei, LUOLie, SONG Xiaobing, FrankLAM	hemj@tongji.edu.cn
10	031355	Underground Engineering	2	BAI Yun	baiyun1958@gmail.com
11	030192	Theory of Elasticity	2	ZHAUNG Xiaoying	xiaoying.zhuang@gmail.com
12	031142	Composite Structure	1	CHENG Shiming	chensm@tongji.edu.cn
13	031250	Retaining Structure and Foundation Pit Engineering	1	TAN Yong	tanvong21th@tongji.edu.cn
14	030311	Introduction to Bridge Dynamics	2	SUN Zhi, GE Yaojun	sunzhi@tongji.edu.cn
15	031347	Underground Structure Disaster and Protection	1	ZHANG Jie	cezhangjie@tongji.edu.cn
16	030044	Syllabus for Tunneling	1	HUANG Hongwei, LI Xiaojun	huanghw@tongji.edu.cn, lixiaojun@tongji.edu.cn

## For graduate students

No	Course Code	Course Name	Credit	Course Teacher	Email
1	2020461	Advanced concrete theory of structures	3	GU Xianglin, LIN Feng	gxl@tongji.edu.cn, lin_feng@tongji.edu.cn
2	2020327	Earthquake engineering	2	CHEN Suwen, CHEN Jianbing	swchen@tongji.edu.cn, chenjb@tongji.edu.cn
3	2020387	Steel and Concrete Composite Structures	2	CHEN Shiming	chensm@tongji.edu.cn
4	2020061	Dynamics of Structures	3	CHEN Juan, HUANG Hongwei	cejchen@tongji.edu.cn, hongweih@tongji.edu.cn
5	2020388	Advanced Theory of Steel Structures	2	WANG Wei, ZHOU Feng	weiwang@tongji.edu.cn, zhoufeng@tongji.edu.cn
6	2020207	Structural Wind Engineering	2	LI Yuanqi	liyq@tongji.edu.cn
7	2020455	Elasticity and Plasticity	3	WU Yuqing	ycwu@tongji.edu.cn
8	2020452	Finite Element Method	2	WU Yuqing	ycwu@tongji.edu.cn
9	2020472	Probability analysis in civil engineering	2	HUANG Hongwei, ZHANG Jie	huanghw@tongji.edu.cn, cezhangjie@tongji.edu.cn
10	2020376	Advanced Experimental Techniques in Structural Engineering	2	LU Wensheng, DAI Kaoshan, YU Jiangtao	wenshenglu@vip.163.com, kdai@tongji.edu.cn, yujiangtao@tongji.edu.cn
11	2020369	Geo-environmental Engineering	2	FENG Shijin	fsjglv@tongji.edu.cn
12	2020378	Tall Building Structures	2	XIONG Haibei	xionghaibei@tongji.edu.cn



# Thanks